DOCUMENT RESUME

ED 220 489 TM 820 502

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TITLE Preparedness for the Future as an Educational Objective in Upper Secondary School.
SPONS AGENCY Skoloverstyrelsen National Board of Education, Stockholm (Sweden).
PUB DATE Apr 82
NOTE 23p.
JOURNAL CIT School Research Newsletter; n3 Apr 1982

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Educational Needs; *Educational Objectives; Educational Planning; Educational Trends; Foreign Countries; *Futures (of Society); Instructional Materials; Research Projects; *Secondary Education; Student Attitudes

ABSTRACT

"Preparedness for the future as an educational objective" is the title of a current research and development project at the Malmo (Sweden) School of Education. Some of the important tasks of the project are: (1) to inventory previous research and other activities relating to the subject; (2) to study pupils' ideas about the future; (3) to collect and analyze viewpoints from various school observers regarding current shortcomings in school preparation for the future, together with recommendations concerning improvement which schools could make; (4) to study ways in which questions related to the future are treated and can be treated in schools; and (5) to compile discussion material and catalogs of ideas for teachers and teacher trainers. Though the project is in its early stages, certain key concepts have recurred in various discussions. They include the close connection between the past, the present and the future; the diversity of alternative possibilities; the ductility of the future; interdependence; and the need for an overall approach to global problems. (Author/PN)

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Newsletter
SCHOOL RESEARCH

April 1982 Current project 1982:3

ED220489

Title of project	Preparedness for the future as an educational objective in upper secondary school
Project no.:	3017
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TM 820 502

Postal address S-106 42 STOCKHOLM Sweden | Office address Karlavägen 108 | Telephone 08 - 14 06 60 | Editor Karin Jansson | ISSN 0345-5343

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PREPAREDNESS FOR THE FUTURE AS AN EDUCATIONAL OBJECTIVE IN UPPER SECONDARY SCHOOL

"Preparedness for the future as an educational objective" is the working heading of a research and development project in progress at the Malmö School of Education. The following is a short summary of the general structure of the project. For further details, readers are referred to a number of reports listed at the end of this description.*)

Why a project on "preparedness for the future"?

We can start by saying that a great deal of normal school activities are by nature concerned with a kind of preparation for the future. The knowledge, skills and behaviour which we develop at school later serve the pupils as practical preparedness in their capacities of citizens and workers. In recent years, however, it has been remarked in several quarters that more should be done, that more deliberate and systematic efforts should be made to prepare pupils for the future. This can be done in many different ways, e.g. directly by means of information about the future on those points where there are certain lines of development which we can explain, but also perhaps above all indirectly, through a more deliberate focus on particular skills which it can be an advantage to possess in any type of future.

But how is this to be done? What are the main deficiencies today in the preparations made by schools for the future? What is it that ought to be done differently? We seem quite simply to know too little about this, and this was one of our initial premisses. We felt that research and development work was needed, we initiated a project, and we are glad that the NBE has been willing to give it financial support.

Main tasks

Some of the important tasks of the project are as follows:

1) To inventory previous research and other activities relating to the subject of "preparedness for the future as an educational objective".

2) To study pupils' ideas about the future.

3) To collect and analyze viewpoints from various school observers regarding current shortcomings in school preparation for the future, together with recommendations concerning improvement which schools could make.

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*) Material available includes a somewhat more exhaustive summary of the project containing concrete illustrations from project material (Bjerstedt, 1982)

4) To make specific studies of the ways in which questions relating to the future are treated and can be treated in schools.

5) Against the background of material from points 1 - 4, to compile discussion material and catalogues of ideas for teachers, and teacher trainers.

These five tasks are to some extent being tackled concurrently in the course of the project, but it was only natural for attention to be concentrated during an initial phase on the first two; the remaining three have been allotted more scope in the later phase of the project, which is now in progress.

This is an extremely large problem area. As a researcher one prefers to have a manageable problem, and this one may seem somewhat unwieldy. The variety of approaches and tasks is almost infinite. Clearly, we cannot conclusively solve the many problems of this field in a single project. But we hope at least to be able to increase our knowledge of the field somewhat, to heighten awareness of these matters on the part of some of the people concerned, and to help encourage a debate and further activities relating to the subject of preparedness for the future.

The concept of "preparedness for the future"

One of the central issues of the project, of course, is: What is the real meaning of the general objective expressed by the term preparedness for the future?

When describing our project in various contexts, we have sometimes been criticized for choosing the term preparedness for the future. One point of criticism has been that this term may seem to presuppose our thinking in terms of a very definite future for which we are preparing ourselves, and that this is an absurd premiss and entails an undesirable inflexibility. We usually replied that it is possible to interpret the term in this way, in which case it does not work well for those who attach such a meaning to it. But we ourselves do not interpret it in this way. An important question for us instead is how schools are to be able to prepare pupils for a future which in vital respects is uncertain and changeable. When we are particularly anxious to prevent an interpretation in terms of a static future image, we sometimes use the phrase "being prepared to meet and shape the future", and we attach a great deal of importance to the second part of this phrase - shaping the future.

Since the concept of preparedness for the future is so comprehensive and complex, it is natural to discuss various ways of dividing up the work of the project into more specific sub-objectives or components. The sub-studies included in the project ought in various ways to be able to contribute towards the formulation of a list of partial objectives. I will content myself here with suggesting a number of conceivable components as a basis for further discussion.

Some conceivable goal components

Here is a series of examples of conceivable goal formulations which can be grouped into the following five categories.

1. Knowledge of the probable

being aware of current trends of change in vital areas ("probable futures"),

viewing these changes in an integral perspective, for example by means of an ecological and global approach,

being able to assess "probable consequences" of both action and inaction.

2. Flexibility, abundance of ideas concerning the possible

being capable of imagining many alternative possibilities ("possible futures", "alternative futures") and of creatively developing alternative ideas concerning solutions to present and future problems.

3. Relation to fundamental values

having a conscious point of departure in fundamental values. (What sort of life and what sort of society do I want to aim for? What do I regard as quality of life?),

being able to view both probable development and various alternative possibilities in relation to values, so as to be able to select "desired futures".

4. Preparedness to act, self-reliance, solidarity

in spite of a realization of present and future problems, preserving a "will to action nevertheless" and trying to realize the desirable ("start towards realized futures"),

possessing a basic psychological security which makes it possible both to be amenable to change and to oppose the undesirable,

having a wide range of solidarity: feeling responsible for the more long-term effects of actions, feeling that things outside one's immediate circle may also be remediable.

5. Retrieval capacity and integration of involvement/critical evaluation

being capable of acquiring the knowledge and implements needed for realization ("on route towards realized futures"),

being capable of allowing one's involvement to be governed by knowledge through a close interconnection of basic values and a critical search for knowledge ("evaluation of heading for the goal").

Without discussing these examples of goal formulations any further, we may note that they cover a very large and wide range of objectives with a great deal of importance attached to general cognitive skills, attitudes and values. Several of them describe "ideals" which are not very easy to attain, though it can be useful to discuss the extent to which and the ways in which they can be approached with the aid of schools.

What are the starting points?

Nearly all educational work can be described in response to three main questions: Where do we want to get? What are our starting points? What is our best way of getting from start to finish? We have now made a number of introductory remarks concerning conceivable goals in the field of preparedness for the future. Another important question concerns the present state of things in Swedish schools. What are our starting points?

Questions of this kind are reasonable to ask, but of course very difficult to answer. We are interested here both in the ideas which pupils in Swedish schools entertain concerning the future and in the nature of the influence currently exerted by schools. If we can arrive at a reasonable description of sub-goals, resembling that reproduced above, the question can also be phrased as follows: Which of these sub-goals can be considered - for example, by the various parties concerned - to be most in need of improved pedagogical inputs? Or again: concerning which of these sub-goals do we have the best chances of making a better contribution in the school context? After all, school opportunities regarding some of these sub-goals are probably extremely limited.

As regards the pupils' ideas concerning the future, we are interested among other things in the extent to which they are optimistic or pessimistic, how differentiated they are, the scope in time and space of the most frequent images of the future, and - not least - the extent to which the pupils feel like active protagonists in or rather like passive victims of their imagined future. To quote a terminology which we sometimes use in these contexts, what is the "actionable range" of different pupils? Do they feel able to play an active part and exert influence to a great or little extent?

Where all such questions are concerned, one must of course be prepared for differences between different groups of pupils (e.g. between different ages), just as between individuals. But how great are the differences and what is the typical picture at different school levels?

Various ways of collecting information

Various kinds of information are being collected to improve our knowledge of the problem field to which the project refers and in order to prepare better documentation on which to base recommendations. A few examples of different procedures will be given

here, grouped with reference to four of the main project tasks mentioned above: (1) survey of literature, (2) studies of pupils' ideas concerning the future, (3) canvassing of viewpoints from various categories of school observer, (4) studies of the way in which questions concerning the future are treated and can be treated in practical schoolwork.

Task 1: Inventory and analysis of literature

The inventory of relevant literature is an important task of this project and will involve a close analysis of selected documents which are particularly interesting for the purposes of the project. Three main types of material will be considered: (a) documents focussing on probable and desired futures; (b) studies of ideas concerning the future; (c) teaching materials dealing with questions relating to the future and educational surveys dealing with the subject of preparedness for the future.

Literature of the first type is abundantly available, and it will only be possible to study isolated specimens. As regards studies of "probable future", one task may be to try to identify a number of "presumed trends" and link them to "type of preparedness for the future", basically as shown by the following illustrative pattern.

Presumed trends	Type of "preparedness for the future"
Information explosion	Capacity for sifting information
Rapidly increased density of interaction in a more heterogeneous society	Tolerance of variation, flexibility
Drastic resource allocation problems	Global responsibility, long-term perspective

Discussions of "desired futures" are an important complement to studies of "probable futures". A great deal of debate literature has been published on this subject in recent years. Some of these books can be used directly in school to encourage the discussion of questions and conflicts of values. Some of the works in this category have also prompted a considerable amount of debate in our mass media, so that the simultaneous study of basic publication and follow-up discussion may be particularly rewarding for educational purposes. A Swedish example is provided by the debate concerning "Hur mycket är lagom?" /How much is just right?/ (by G Bäckstrand and L Ingelstam), while as a Danish example we have the book "Oprør fra midten" /Rebellion from the Centre/ (by N I Meyer, K H Petersen and V Sørensen), which was unusually popular for a work of social anslysis.

Studies of ideas concerning the future are of course directly germane to our project, but they are comparatively rare in

literature. One major project in this field is the transnational "Images of the world in the year 2 000". This and another multinational project have been dealt with in the course of our own project in a small publication by A-L Tvingstedt (1978).

Teaching materials on questions for the future and educational surveys or discussions relating to the subject of preparedness for the future are also closely relevant to our project. Works of these kinds are not particularly common, although interest in courses and course material focussing on the future appears to have grown in recent years. The project team have endeavoured, partly via the World Future Society, which has a special educational section, to improve their knowledge concerning less readily available literature and current activities within this field in other countries.

In addition to undertaking our own analysis of literature, we also want to collate relevant literature in bibliographical cynopses which can make it easier for others to find their way in this heterogeneous field of literature.

Task 2: Studies of pupils' ideas concerning the future

When it comes to plotting current ideas about the future, the pupils themselves are our source of information. We are trying various methods here: essays, interviews, questionnaires and various test techniques.

Among other things, two types of essay material have been used: one with a minimum of control (free essays on the subject of "the future"), and one with a more specific initial stimulus (the essay writers are given access to certain texts and are able to choose between various subjects).

One of the purposes of pupil interviews is to obtain variegated and balanced material in which it is possible to follow up individual answers. Within the project we have primarily interviewed students from the terminal grade of upper secondary school: students who were about to leave school and ought therefore to be in a position to sum up their opinions of school; cf. Ahlin & Kamienski, 1980.

Interviews require a great deal of work input and therefore have to be confined to a limited material. To facilitate certain comparisons of larger groups, we are supplementing the interviews by means of written questionnaires. Some of the results from one of our preparatory studies have been reported by Tvingstedt (1979). A more comprehensive questionnaire survey, involving some 3 500 pupils, has since been conducted. This includes a total survey of terminal grade students in all lines of Malmö upper secondary schools, together with supplementary reference groups from grades 9 and 6.

In addition to essays, interviews and questionnaires, more specialized testing techniques (free associations, sentence completion, semantic differentials etc.; cf. Darås-Olsson, 1980) have been tested. Drawings and group interviews have also been used.

Task 3: Canvassing of viewpoints from various school observer categories concerning schools and preparation for the future

Close-up view

As has already been indicated, the pupil interviews, like the pupil questionnaires, dealt with the pupils' opinions concerning school and preparation for the future, as well as the pupils' ideas concerning the future itself. Do the pupils feel that schools at present are preparing them adequately for the future? And above all, perhaps, in what ways do they feel that schools could prepare them more adequately for the future?

Viewpoints were collected from grades 5 and 8 of compulsory school and grades 1, 2 and 3 of upper secondary school in a preparatory questionnarie study (Tvingstedt, 1979). Among other things this involves studying answers to the general question: "How do you feel that school has prepared you for the future?" Most of the positive replies were found to come from pupils in the most junior grade. There was a clear predominance of negative answers in all the other grades.

It is natural for viewpoints also to be canvassed from other observers of present-day Swedish schools besides the pupils themselves - above all from teachers. Experience gained from an initial interview study of a group of upper secondary school-teachers has been summarized by Hansson (1979). Here, briefly, are some examples of viewpoints contributed by this group.

Most observers felt that both compulsory school pupils and upper secondary school students were poorly prepared for the future, taking the term preparedness in its broader sense. On the other hand, many of the upper secondary school students were considered relatively well prepared for their personal, occupational future. Shortcomings referred to by many observers included the fragmentation of schoolwork into subjects, subject items and lessons, and its division between many teachers. This fragmentation was felt to impair the pupils' chances of obtaining a coherent, comprehensive picture of work in school and in society at large. It was also remarked that the pupils were excessively "mollycoddled", that they had too few opportunities of acting on their own in responsibility. There was fairly widespread agreement that schools could do more to provide adequate preparation for the future, and there was also a general consensus that this would probably mean more future-oriented subject items as well as a more deliberate focus on attitudes and skills pre-eminently constituting preparation for the future.

In addition to teachers, interview studies in the course of the project also involve other school-related groups, e.g. trainee teachers (Ekstrand, 1981a), teacher trainers (Rudvall & the Project "Preparedness for the Future", 1980; Ekstrand, 1981b) and persons with experience of upper secondary school survey work (Nilsson & the Project, "Preparedness for the Future",

1981; Wallentin, Frostensson & the Project "Preparedness for the Future", 1981).

Long-distance view

The project team, however, have considered it insufficient to address themselves to persons with this kind of close-up view of school (pupils, teachers and other members of the school community). To widen the range of viewpoints, questions concerning the ability of schools to prepare pupils in various ways for an uncertain and changeable future have been addressed to a number of prominent sectoral experts (e.g. persons with research experience in various fields), social debaters and school policymakers. One of the aims in selecting respondents has been to obtain a variegated sample and also if possible to include a number of persons who in various ways have already had occasion to deal with future perspectives.

The procedure was as follows

1. The persons selected were first supplied by post with a number of "talking points" to form the skeleton of an interview. Questions included the following. "What is the first thing that comes into your mind when you hear the words preparedness for the future? Looking back on your own school days, do you feel that school then made you and your friends well equipped to meet and shape the future? Do you believe that schools could do more to make pupils well equipped to meet and shape the future? What are some of the steps and measures that you think of first?"

2. The interviews were conducted by Christer Bjurwill and tape-recorded. The pre-distributed main questions were then supplemented with free follow-up questions.

3. An initial interview transcript was prepared in due course by secretaries. The interviewer (CB) and the project leader (ÅB) then slightly adapted the transcript to produce a text which was readable and slightly abridged.

4. The adapted transcripts were sent to the interviewees for a final check (corrections, elucidations etc.) and to be approved for reproduction.

The reviewed and approved transcripts now constitute the "official basic version" of the project and can be used by us for direct publication and for analytical summaries of various kinds. A series of booklets containing full-length versions of the interviews has been published (cf. Fagerberg, Jersild & the Project "Preparedness for the Future", 1979).

Many people found the full-length version booklets, successively published between 1979 and 1981, interesting reading, and it therefore seemed appropriate to publish more comprehensive collections as well. One of these contains interviews of 12 persons:

Gunnar Adler-Karlsson	Professor of political science
Johan Asplund	Professor of social psychology
Tor Ragnar Gerholm	Professor of physics
Åke Gustafsson	Professor of genetics
Ingemar Hedenius	Professor of practical philosophy
Torsten Husén	Professor of education
Torsten Hägerstrand	Professor of ethnogeography
Lars Ingelstam	Professor of technology and social change
David Ingvar	Professor of clinical neurophysiology
Birgitta Odén	Professor of history
Sten Samuelsson	Professor of architecture
Håkan Wiberg	Professor of sociology

One thing which all the interviewees in this group had in common was that they were professors of various university subjects. (Bjerstedt & Bjurwill, 1981a; cf. Bjerstedt & Bjurwill, 1981b and c). In addition to these full-length presentations, a number of summarizing analyses have also been issued (e.g. Bjurwill, 1981a and b).

To broaden our perspective still further and in order to utilize the special experience already gained in some quarters outside Sweden, a number of researchers and future-minded educationalists were also interviewed in England and the United States, partly in connection with conferences arranged by the World Future Society. Some of these interviews have been published in full-length versions examined by the interviewees. This applies, for example, to talks with Christopher Dede (Founding President of the educational section of the World Future Society, one of the founders and directors of a well-known futures study programme at university level in Texas), Allan L. Peakes (in charge of the futures study programme at what is probably a unique school, focussing entirely on future-oriented studies) and Mary Alice White (Professor at Teachers college, New York, leader of a special course entitled "Schooling for the Future" and author of "The Land of the Possible").

Task 4: Studies of the way in which questions concerning the future are treated and can be treated in schools

As a result of the activities described in the preceding section, the project can among other things be said to be collecting opinions concerning things which schools could do better. In our continuing work it will be interesting to test some of these opinions in practical schoolwork, to make specific studies of the way in which questions concerning the future are treated in school teaching, how they can be treated, what the difficulties are and so on. Since these things are included in the project activities now in progress, all we can do here is give a brief indication of our interests.

During the spring of 1980, Sweden held a referendum on nuclear power in which many upper secondary school students were entitled to vote. The referendum concerned a vital question for the future, and one with wide-ranging implications extending far ahead in time. This seemed a propitious occasion on which to study the extent to which and the way in which schools included such questions in their teaching, the prominence given to future perspectives, and the way in which controversial questions concerning values were handled in this connection. Immediately after the referendum, therefore, the project team carried out a study of these questions, mainly by interviewing teachers and students (Ankarstrand-Lindström & Nilsson, 1980).

Teachers and others often referred when interviewed to the need for special teaching materials for future-oriented instruction. There are not many such textbooks in Swedish, but one of the few is the quite recently published "Människan och framtiden" /Man and the Future/, containing suggestions for group work on future issues and quality of life, the practical planning of a residential area and rôle play in this connection. Lena-Pia Lindholm has tested this material in a number of classes on behalf of the project, using tape-recordings, pupil questionnaires, essays, interviews of teachers and written reports from teachers on the progress of work.

The project team has established a small liaison group of upper secondary school teachers in various subject fields to discuss opportunities of introducing more elements of preparation for the future in regular teaching. School experiments of various kinds, closely geared to the discussions of the liaison group, give the project team an opportunity, in consultation with the teachers, of planning special teaching series and following them up, for example, with interviews and questionnaires. Questions concerning peace play a central part in some of these experiments. This work, which is now in progress and can partly be said to comprise exploratory case studies, is being led by Gunnel Ankarstrand-Linström.

As an end product of the project, and on the basis of all the material collected in connection with the four tasks described above, we hope to be able to compile discussion material or catalogues of ideas for teachers, teacher trainers and others. The project team has already been alive to the need for discussion materials in certain parts of its publishing activities. The collections of interviews published (Bjerstedt & Bjurwill, 1981 a-c), for example, should be able to serve as documentation of this kind, and the summaries of interviews of Swedish experts and social debaters (Bjurwill, 1981 a-f) have been presented with the express aim of forming a basis for discussion (with points of discussion inserted).

Paving the way to our destination: Some concluding remarks

Earlier we mentioned the three questions concerning the objective, the starting points and the route from start to finish. This project is aimed in various ways at increasing our know-

ledge in all three fields of enquiry. The third question is perhaps particularly interesting to teachers: What are the appropriate ways of reaching or approaching the goals? Or, putting the question directly in the terms of the project: In what various ways can we improve the ability of schools to prepare their pupils for the future?

It should also have been made clear by now that the project is aimed at helping to answer this third question in three different ways: by collecting information on international experience within the field, by studying assessments made in Sweden by people with experience of present-day schools and various expert fields, and by means of specific practical experiments in schools.

It is probable that completely different types of school inputs should be recommended for different parts of the catalogue of objectives. Possible examples of such inputs are as follows: (a) "future orientation" (information on current trends of change and their conceivable consequences if allowed to continue "undisturbed"), (b) "training of skills" (training to procure and sift knowledge, among other things to understand the techniques used in futures studies; training in the production of ideas; training in the elucidation of values) and (c) "construction of attitudes and values" (establishment of motivation for active preparedness and for a wider range of solidarity).

Techniques which may be useful include the following: (a) information reading and information processing (for example, of abbreviated presentations of reports from futures studies), (b) experiential reading (for example, of science fiction focussing on the consequences of innovations), (c) argumentative and empathic training (via rôle play and simulation in planning and decision-making situations of a future character) and (d) participation training (close contacts with working life and politics in the local community).

It is too early yet to say what the final recommendations will look like, but we can roughly outline some general viewpoints which have often emerged in the course of our work so far.

Certain key concepts or themes recur again and again in our discussions concerning the future and preparedness for the future. Key concepts of this kind include, for example, (1) the close connection between the past, the present and the future (the idea of yesterday's decisions having shaped our situation today, just as today's decisions lay the foundations of the possibilities which tomorrow will afford); (2) the diversity of alternative possibilities (the desirability of making people aware of the many alternatives which actually exist); (3) the ductility of the future (the idea being that we are not - and should beware of regarding ourselves as - passive victims of development trends, but can choose, control and create important parts of the future);(4) interdependence (the idea that development problems ought best to be regarded as systems in which nearly everything is interconnected) and the closely associated

global and ecological perspectives; and (5) the need - closely related to the above - for an overall approach to the problems and for responsibility for the whole of planet Earth.

These thoughts can of course be formulated and differentiated in various ways, for they are closely interconnected in some respects. But it is reasonable that they should be allowed in various ways to influence the design of school teaching aimed at preparing pupils for the future. The design of alternative possibilities may require a greater measure of divergent thinking than schools normally encourage at present; the development of individuals willing and able to "shape" a future may require more training in the assumption of responsibility than schools customarily offer, and so on.

Another frequently recurring viewpoint is that preparedness for the future cannot be inculcated as a separate package or within an individual subject but must be a task for all subjects (which need not prevent special thematic elements concerning future questions from having their appointed place). The idea of the close interconnection of the past, the present and the future can, for example, be naturally brought out in the teaching of history, but it can also be brought out in science subjects like biology or physics (for example, by pointing to past scientific discoveries and their various consequences); and the same intellectual theme can be brought out through the reading of literature.

One finds that many pupils have a pessimistic, sometimes extremely pessimistic view of the future. A great deal of popular literature about the future conveys a doomwatching attitude. A completely pessimistic paralysis can be just as bad a way of starting off into the future as an unreflected, unrealistic optimism. This may be one important reason for future-oriented teaching to bring pupils into contact with a broad spectrum of images of the future and to increase their knowledge of existing alternatives. When all is said and done, is not a realization of the difficulties entailed by future problems, combined with "a will to action nevertheless" the most realistic and fruitful approach today?

Continuing work

This project, which at present is receiving financial support from the NBE, is fully entitled "preparedness for the future as an educational objective in upper secondary schools", and most of the work described here has focussed on upper secondary schooling. The main collections of data have taken place at this level, and the practical school experiments are also being undertaking here. This NBE-funded upper secondary school project is currently expected to continue until the end of June 1983.

Certain minor supportive and comparative studies focussing on other school levels have also been conducted, in association

with the current upper secondary school project. It would be an advantage if more comprehensive work could be launched with direct reference to compulsory schooling, and it would also be worthwhile if we could broaden our perspective by means of comparative studies in other countries.

Finally, we know too little, not only about the future and its possibilities, but also about our best way of preparing ourselves for the future. Very probably the images of the younger generation concerning the future and their willingness to help shape it will have a crucial bearing on the future which actuality materializes. It therefore seems important for many people to take an interest in augmenting our knowledge of this field, for example by means of experiments in schools. After all, a single project cannot accomplish all that much on its own. We will be gratified, however, if we are able to prompt others to engage in further intellectual and practical activity concerning the questions outlined here.

It is partly for this reason that we have been unwilling to confine the account of our work to a number of concluding research reports. Instead we have preferred to present successive examples of our ongoing work in the form of handy small publications. We hope that these short descriptions will encourage other interested persons to give us their reactions, that some of these publications will be found useful in teacher training and teacher INSET as discussion material, and that some of them will perhaps spark off separate research activities in this field. A list of our publications to date is appended to this report.

LIST OF PUBLICATIONS HITHERTO

These publications can be ordered from the project secretary:

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